November 22, 2002

Project Team
Regional Energy Infrastructure Study
C/o San Diego Regional Energy Office

Dear Project Team Members and Regional Energy Policy Advisory Committee Members and Officials:

The Greenpeace Clean Energy Now! Campaign is pleased to have this opportunity to comment on the substance and recommendations contained in the Regional Energy Infrastructure Study (REIS). The REIS-- a document that may guide the San Diego region's energy future--is one that should thoroughly consider many sources of information and must be able to withstand rigorous questioning of how its conclusions were reached. To that end, we wish to separate our comments in the way suggested at the October 8, 2002 REPAC meeting: documenting areas in which the facts are in dispute and documenting where the opinions/policy recommendations or conclusions in the report are not supported by facts.

Greenpeace Input on REIS Assumptions and Findings

Energy Efficiency

The energy efficiency savings potential for the region has been vastly understated in this report (page 5-1). The latest report on commercial energy efficiency potential completed by Xenergy[1] shows that 1,151 GWh/**year** of economically viable energy efficiency measures are viable in the region. This is vastly greater than the estimated 30 year savings of up to 3775 GWh cumulative energy savings by 2030.

Wind Energy

The report, page 5-20, states there is only 500-1,000 MW potential from wind. Cannon Energy Systems has signed letters of intent to build hundreds of MW in the area, and conversations with developers have revealed that there are thousands of MW available on both sides of the California/Mexico border.

Geothermal

There is already a 185 MW geothermal plant in Calipatria, CA that has made it through the initial CEC licensing phase. The report's estimates of only 15 to 40 MW of available geothermal power by 2006 on page 5-23 is excessively low. Furthermore, this developer has stated that there are up to 2,300 MW of potential Geothermal power in Imperial County.

Net Metering

AB 58 has been signed into law, allowing individual projects of up to 1 MW systems to be net metered. This is a victory for the PV market in California. However, the IOU's were able to limit the amount of net metered systems to 1.5% of the area's peak demand.

Therefore, Net Metered systems will be limited to 21.9 MW in San Diego (= 0.5% of 4380MW, the REIS forecast for 2006). The Net-Metering Bill reads:

> Public Resources Code 25401.6. section (c) (1) Every electric service provider shall develop a standard contract or tariff providing for net energy metering, and shall make this contract available to eligible customer-generators, upon request, on a first-come-first-served basis until the time that the total rated generating capacity used by eligible customer-generators exceeds **one-half of 1 percent of the electric service provider's aggregate customer peak demand.**

This is a potentially limiting factor in the development of PV as a peak load reduction measure, but there are still plenty of MW that can be installed in San Diego before the cap is reached. Furthermore, not all systems need to be Net Metered to be hooked into the grid. Systems that are sized to generate less than the buildings energy demand can be connected to a building and the grid, reducing energy consumption at peak hours, without being Net Metered. Net Metering is only necessary if the system produces more electricity than the building consumes, and needs to use the grid to 'store' that excess electricity.

Greenpeace input on report conclusions

Natural Gas

Greenpeace agrees with the conclusions of the REIS study on page 3-2, that natural gas supplies in the nation are declining and that any construction on natural gas infrastructure will be relying on a dwindling resource. California as a state already imports 85%[2] of it's natural gas and that percentage will increase if demand grows, as there are no new gas resources in California being developed. Furthermore, as gas resources are extracted, well production declines, creating a negative feedback cycle whereby more wells need to be drilled to maintain current rates. If production rates continue to decline, as they have been, over 37,000 new wells will need to be drilled over the next twenty years to meet demand[3]. Obviously, this will be very expensive and environmentally destructive, while only serving to extend our dependence on this fuel source.

Given the above-mentioned items, the natural gas price forecasts on page 3-5 seem very optimistic. It is unrealistic that a dwindling resource, which will require massive capital investments to continue current production, will go down in price over the next 18 years. It is much more likely that the price and volatility of natural gas will continue to rise into the future, further affecting consumers in the San Diego area, as happened during the energy crisis of 2000 and 2001.

Liquified Natural Gas

As stated in the REIS, LNG does not become competitive until prices for natural gas exceed $3.8/Mcf. The report goes on to say that much of this gas will be used in natural gas fired power plants. However, it is critical to note that $3.00/Mcf is the price at which electricity generated from renewable energy sources becomes competitive with natural

gas fired electricity[4]. *Therefore, renewable energy is cheaper than electricity generated from liquified natural gas. Depending on LNG to bring natural gas to the region for electricity production will continue to lock the San Diego area into high electricity prices for years to come.*

Energy development on the California/Mexico border

San Diego citizens—and even the authors of this report—may not realize the incredible potential for power plants construction just south of our border. There are many plants planned for the area, many more than are necessary for serving the local populations. Instead the power would be transmitted throughout the state, to consumers in Los Angeles and northern California.

On page 4-7, the authors state that because the WECC estimates that 40,000 MW of new generation is projected for the California/Mexico region, therefore "adequate transmission must be available in order to take advantage of this power." That is not the way to plan the energy future for the region. 40,000 MW represents a tremendous number of power plants, equaling almost 75% of California's total current generation capacity. This is totally unrealistic and unnecessary for San Diego. It should be noted that much of this power would be located in Mexico, where companies do not have to abide by California's strict air emissions standards. As noted on page 4-9 siting new power plants in the San Diego area is costly and difficult. 40,000 MW would equal a total of 80 (eighty!) 500 MW power plants virtually lining the California/Mexico border, having drastic air quality, environmental justice and global warming implications. There is strong pressure from energy corporations to go forward with these costly, unneeded and misguided power plant plans. San Diego should not have its energy future determined by profit hungry corporations that are willing to go against the public interest in favor of their corporate interests.

Valley-Rainbow Interconnect

The Valley-Rainbow Interconnect (VRI) is key to Sempra Energy's plans to develop the border region as a Dirty Energy Export Zone. Sempra is already building one power plant in Mexico that need not abide by California's strict environmental regulations (Termoelectrica de Mexicali) and has plans for a second plant (Imperial Valley 2) in Mexicali. *Furthermore, Sempra's planned natural gas infrastructure south of the border would supply enough natural gas for twenty-two 500 MW power plants in the region.* The VRI is integral to making this plan cost effective, as it would open up the market for this power, allowing Sempra to sell electricity produced in Mexico to Los Angeles and Northern California.

The overall plan becomes apparent when one considers the other infrastructure that Sempra and the California ISO are looking at in the region. The CAISO report, Southern California Long Term Regional Transmission Study, published on February 15, 2002 states on page 4 "...the following conceptual transmission reinforcement plans were identified ... build a new 500 KV line from Imperial Valley ... to SDG&E's proposed

Rainbow Substation." This would complete a circuit around San Diego to deliver power generated at the California-Mexico border to Los Angeles and beyond. Therefore San Diego and the border communities would bear the brunt of the impacts of generating dirty power in Mexico for the California's profligate energy consumption.

Sempra's stated need for the Valley-Rainbow Interconnect is bogus. The N-1/G-1 scenario whereby Sempra assumes electricity generation shortfalls in San Diego has a probability of occurrence once every 250 years[5]. The authors of the Regional Energy Infrastructure Study should make reference to other parties in the Valley-Rainbow Hearings, not just SDG&E, to state the other side of the arguments on this very contentious transmission line. Recently, Administrative Law Judge Michelle Cooke, the CPUC judge assigned to the VRI hearing, released a proposed decision to deny the application of San Diego Gas and Electric for the Valley-Rainbow interconnect without prejudice. The REIS needs to identify other arguments than those of SDG&E in regards to the VRI.

Greenpeace Response to the Assumption that San Diego Needs 2 New Power Plants

The most important assumption of this study is the implied need to build two new power plants in San Diego. If San Diego wants to limit the risks of heavy reliance on natural gas and global warming, why does the study conclusively state that there is no question on the need for two new natural gas plants in the County? This conclusion is contrary to the conclusions of the California Public Utilities Commission (CPUC) in the Valley-Rainbow Interconnect Hearing (01-03-036). The CPUC, the governing agency that plans for energy reliability in the state of California has determined that electricity needs in the San Diego area can be met in 2006 and to 2008 solely with the addition of one 500 MW power plant, the Otay Mesa power plant. Both Administrative Law Judge Michelle Cooke and Commissioner Henry Duque have determined that one 500 MW power plant would be sufficient to meet the regions energy needs within the planing horizon. Cooke and Duque disagree on weather or not the Otay Mesa Power plant will be constructed. Greenpeace does not advocate on behalf of building a natural gas power plant to meet growing demand, but wants the record to show that in the foreseeable future only 500 MW of power is needed in the area. Greenpeace believes this need should be met through investments in renewable energies. Below are two arguments that call into question the assumption that new natural gas power plants are needed in the area.

1) The planning horizon of the REIS is too long:
   - Electricity forecasting is a very difficult task, and the CEC, CPUC and the IOU's do not attempt to plan more than 10 years in advance. The authors, by looking out 30 years into the future are making impossible assumptions. It is a good exercise for the SDREIS to look out 10, 20 and 30 years into the future, but it should be recognized as just that, an exercise. Planning decisions should not be made on a modeling run that looks 30 years into the future and theorizes that demand will continue to grow unabated, while transmission and in basin generation shrink. That is simply not reasonable.

2) Efficiency, DSM and renewable energy can eliminate the need for new power plants.

- From information at in the VRI hearings ALJ Cooke determined a set of forecasting assumptions for the next decade in San Diego for the purpose of determining the need for the VRI. The forecasting did not take alternatives to fossil fuel generation and transmission, such as DSM, DG or renewable energy, into account.

  Sensitivity analyses for the CPUC regional forecasts are shown on page 50 of the proposed decision by ALJ Cooke[6]. The sensitivity analyses are agreed upon by CPUC Commissioner Duque, even though he disagrees with ALJ Cooke's decision to deny the application for the VRI. The sensitivity analyses do not take DSM, renewable energy or energy efficiency into account to meet demand. The authors should note that the CPUC's most dire forecast, with no new power plants, high growth and no new transmission, estimates that supply falls short by 87 MW in 2006 and 572 MW in 2010. As noted above the CPUC proposed decision does not look at alternatives, but the SDREIS does. By using the SDREIS assumptions on DSM, DG and renewable energy potential we see a more complete picture of the energy future in San Diego. The shortfalls predicted in the CPUC proposed decision can be met with the alternative energy supplies identified by the REIS on page 6-10 (table 6-5). Table 6-5 shows 516 MW of alternative energy supply in 2006 and 912 MW in 2010. Even accounting for dispatchability issues with renewable energy, this is enough alternative supply to meet the demand shortfalls until 2010, as shown below in Table 1.

	YEAR	
AGENCY	2006	2010
CPUC forecasted shortfall (Worst Case)	(87.00)	(572.00)
SDREIS forecasted alternative supplies (Low Supply)	516	912
TOTAL SURPLUS	**429**	**340**

Table 1: Combination of SDREIS and CPUC forecasts

Possible Solutions to San Diego's Energy Needs

The REIS does a good job summarizing potential energy scenarios for the region. Several facts that the REIS brings to light can be combined to provide an answer to San Diego's energy needs;

1) San Diego may need more electricity supply in the next 30 years
2) San Diego is already over reliant on natural gas and is deepening its dependency on this imported, volatile, polluting fuel source
3) Sources of natural gas, such as LNG, will only increase price volatility of this fuel, while increasing the cost of electricity in the region
4) Further dependency on natural gas will increase San Diego's CO2 emissions and intensify global warming
5) There are plentiful renewable energy resources, including wind, solar thermal and geothermal to the east in San Diego and Imperial Counties

6) The southwest powerlink (SWPL) transmission line is the single largest transmission line into San Diego and is susceptible to outages

Given these facts and many others listed in the report, it is reasonable to look for solutions that increase San Diego's access to renewable energy to meet rising energy demands while reducing dependency on natural gas. Therefore, the authors of the SDREIS should look to bolstering, or paralleling, the SWPL transmission line to increase the ability of San Diego to procure power from renewable energy resources that lie east of the city. This will bolster the local economy with good clean energy jobs, while reducing San Diego's dependency on natural gas.

Conclusion

The San Diego Regional Energy Infrastructure Study lays out many potential futures for the region. San Diego may face energy shortages or surpluses in the future, depending on many factors. One thing, however, is certain; the negative environmental consequences and costs associates with fossil fuels will continue to rise. Global warming impacts are becoming prevalent, while local air quality will continues to decline. Meanwhile, the dependence on natural gas as the single fuel source has already cost San Diego many millions of dollars. San Diego lies at a crossroads, continue to increase dependence on natural gas as the primary fuel supply, or embark on a new energy path focused on renewable energy and distributed generation.

Greenpeace agrees with many of the conclusions of the REIS and appreciates the work that has gone into the study. There is some information in the study that should be revisited, such as the amount of renewable energy and energy efficiency available to the region. But overall the arguments for efficiency, renewables and distributed generation are well researched and we are glad to see the authors credit these 'alternative' sources of energy with the ability to meet a substantial portion of the regions energy needs in the near future.

The implicit conclusion that San Diego will need 2 new power plants in the near future needs to be revisited as well. There are many other sources of energy in the region that will not deepen San Diego's dependence on natural gas that should be utilized before new natural gas power plants are built. San Diego City and County can embark on aggressive energy efficiency and conservation education campaigns as well as facilitating clean distributed generation projects throughout the area that will minimize the need for new power plants. Furthermore there are thousands of Megawatts of clean renewable energy just east of the City of San Diego that can be tapped to meet future energy demands. The possibility of bolstering the Southwest Power Link transmission corridor to access these resources should be discussed by the SDREIS as an alternative to both the need for new power plants as well as the proposed Valley-Rainbow Interconnect.